

REMARKS

Claims

Claims 1-10 have been examined. By this Amendment, Applicants add new claims 11-14. Hence, claims 1-14 are all the claims pending in the application. Claims 1, 2, 3, 5, and 6 have been amendment to better conform them to U.S. Patent practice.

The amendments to these claims do not narrow the literal scope of the claims and thus do not implicate an estoppel in the application of the doctrine of equivalents.

Formal Matters

Applicants thank the Examiner for acknowledging the claim to foreign priority and receipt of a certified copy of the priority document. However, Applicants respectfully request the Examiner to consider the reference submitted in the Information Disclosure Statement filed on July 29, 2003.

Allowable subject matter

Applicants thank the Examiner for indicating that claims 2 and 7-10 would be allowable if rewritten in independent form. However, Applicants request the Examiner to hold in abeyance such rewriting of these claims until the Examiner has had an opportunity to reconsider and withdraw the rejection of the other claims.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 3, 4, and 6 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 4,731,859 to Holter *et al.*, hereinafter "Holter", in view of U.S. Patent No. 6,188,787 to Ohmae *et al.*, hereinafter "Ohmae". For at least the following reasons, Applicants respectfully traverse the rejection.

Claim 1

Applicants submit that claim 1 is patentable over the cited references. For example, claim 1 recites an image processing method comprising, *inter alia*, generating object regions by dividing an image into objects, and generating a *plurality* of block regions each having a *predetermined* number of pixels and having a *smaller area* than any one of the object regions by *dividing each of the generated object regions*. The Examiner contends that in figure 1 of Holter, an image of the scene 100 suggests the image of claim 1, and further contends that the “color blocks” in figure 6 are generated by the system of Holter, and that area 101’ is the smallest block in the image having “a *predetermined* number of pixels based on the size of each block” (Office Action, page 3, emphasis added). Applicants respectfully disagree.

For instance, the “color blocks” in figure 6 of Holter do not disclose or suggest “generating a *plurality* of block regions each having a *predetermined* number of pixels and having a *smaller area* than any one of the object regions *by dividing each of the generated object regions*”. Holter is directed to a method to perform pattern recognition to identify features to be recognized (*see* Holter: Abstract). Holter discloses that the pattern recognition is carried out as follows:

a) Imaging device 106 collects some aspects of the image 100 passively (such as colors of objects in the image 100), and some actively, such as *the vertical separation of the objects in the image 100*

Here, two classification steps are carried out (only the first of the two classification steps is discussed below).

b) First, a partial classification is performed by processor 110 to *determine* “abrupt” changes in altitude from those which are less abrupt based on the altitude data of the image - the resulting data describes the altitude of pixels relative to a “flattened” ground. Holter discloses that by performing this step, “a relatively small fraction of the total image is all that must be further considered” (Holter, col. 4, lines 27-47).

The determined areas are shown in figure 3 as areas 101-105, 107, and 109. As can be seen in figure 3, areas displaying abrupt height changes relative to the “flattened ground” are *determined*, such as vehicles 101-105 and stop signs 107 and 109. Holter states that this partial classification step “demonstrates the benefit of performing a highly *discriminatory* step first in the process” (Holter, col. 5, lines 1-12, emphasis added).

The area cited by the Examiner, area 101’, is the same area as the area 101, but subject to further image processing (i.e., the second classification step) based on color characteristics of the area 101 and a preset reference pattern (Holter, figures 3, 5, 6, and 8, col. 6, lines 26-47, and col. 7, lines 17-20). Clearly, the area of the vehicle 101 is *determined* based on abrupt changes in the altitude characteristics of the image.

In light of the discussion above, Holter does not disclose or suggest that the area 101 is a block region “having a *predetermined* number of pixels” as set forth in claim 1. As such, Applicants respectfully submit that Holter and Ohmae, alone, or in combination, do not disclose, teach, or suggest the noted features of claim 1 in as complete detail as set forth in the claim.

Claims 3, 4, and 6

Claim 3 recites features analogous to those presented above with respect to claim 1, i.e., claim 3 recites an image processing apparatus comprising, *inter alia*, object region extraction means for generating object regions by dividing an image into objects, and block region generation means for generating block regions each having a *predetermined* number of pixels and having a smaller area than any one of the object regions, *by dividing each of the generated object regions*. As such, Applicants respectfully submit that claim 3 is patentable for *at least* reasons analogous to those given above with respect to claim 1.

Moreover, since claims 4 and 6 depend from claim 3 which has been shown to contain patentable subject matter above, claims 4 and 6 are patentable *at least* by virtue of their dependency.

Claim 5

Claim 5 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Holter in view of Ohmae and further in view of U.S. Patent No. 6,418,238 to Shiratani *et al.*, hereinafter "Shiratani". For at least the following reasons, Applicants respectfully traverse the rejection.

Since claim 5 depends from claim 3, and since Shiratani does not disclose the deficient teachings of Holter and Ohmae with respect to claim 3, Applicants respectfully that claim 5 is patentable *at least* by virtue of its dependency.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER


Susan P. Van
Registration No. 41,239

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